

We claim:

1. A method of controlling power of a transmitted communication signal, comprising:
  - amplifying a communication signal;
  - transmitting the amplified communication signal;
  - receiving at least one parameter on the transmitted signal;
  - determining a measure of interference with the transmitted signal based on the received parameter; and
  - increasing an average power level of the communication signal by clipping the communication signal prior to amplification by an amount based on the determined measure.
2. The method of claim 1, wherein the received parameter is a signal-to-noise ratio.
3. The method of claim 1, further comprising:
  - calculating a signal-to-noise ratio of the transmitted signal based on the received parameter; and wherein
  - the determining step determines the measure of interference based on the calculated signal-to-noise ratio.
4. The method of claim 1, wherein
  - the determining step determines if at least one of short term interference and long term interference with the transmitted signal exists based on the received parameter; and
  - the increasing step increases the average power level by a first amount if the determining step determines that short term interference with the transmitted signal exists and increases the average power level by a second amount if the determining step determines that long term interference with the transmitted signal exists, the first amount being greater than the second amount.

5. The method of claim 4, wherein the received parameter is a signal-to-noise ratio.
6. The method of claim 4, wherein the increasing step comprises:  
first clipping the communication signal by at least the first amount if the determining step determines that short term interference with the transmitted signal exists; and  
second clipping the communication signal by at least the second amount if the determining step determines that long term interference with the transmitted signal exists.
7. The method of claim 6, wherein the increasing step further comprises:  
gain controlling the communication signal based on an amount by which the communication signal is clipped.
8. The method of claim 7, wherein the received parameter is a signal-to-noise ratio (SNR).
9. The method of claim 8, wherein the determining step comprises:  
first determining if the SNR exceeds a first threshold;  
increasing a first counter if the first determining step determines the SNR exceeds the first threshold;  
second determining if the SNR exceeds a second threshold, greater than the first threshold;  
third determining if the first counter exceeds a third threshold if the first determining step determines the SNR exceeds the first threshold and the second determining step does not determine that the SNR exceeds the second threshold;  
performing the second clipping step if the third determining step determines that the first counter exceeds the third threshold;  
increasing a second counter if the second determining step determines the SNR exceeds the second threshold;

fourth determining if the second counter exceeds a fourth threshold if the second determining step determines the SNR exceeds the second threshold; and performing the first clipping step if the fourth determining step determines that the second counter exceeds the fourth threshold.

10. The method of claim 6, wherein the determining step comprises:

first determining if the SNR exceeds a first threshold;  
increasing a first counter if the first determining step determines the SNR exceeds the first threshold;  
second determining if the SNR exceeds a second threshold, greater than the first threshold;  
third determining if the first counter exceeds a third threshold if the first determining step determines the SNR exceeds the first threshold and the second determining step does not determine that the SNR exceeds the second threshold;  
performing the second clipping step if the third determining step determines that the first counter exceeds the third threshold;  
increasing a second counter if the second determining step determines the SNR exceeds the second threshold;  
fourth determining if the second counter exceeds a fourth threshold if the second determining step determines the SNR exceeds the second threshold; and  
performing the first clipping step if the fourth determining step determines that the second counter exceeds the fourth threshold.

11. The method of claim 4, wherein

the determining step includes,  
first determining if the SNR exceeds a first threshold,  
increasing a first counter if the first determining step determines the SNR exceeds the first threshold,  
second determining if the SNR exceeds a second threshold, greater than the first threshold,  
third determining if the first counter exceeds a third threshold if the first determining step determines the SNR exceeds the first threshold and the

second determining step does not determine that the SNR exceeds the second threshold,

increasing a second counter if the second determining step determines the SNR exceeds the second threshold, and

fourth determining if the second counter exceeds a fourth threshold if the second determining step determines the SNR exceeds the second threshold; and

the increasing step increases the average power level by the second amount if the third determining step determines that the first counter exceeds the third threshold and increases the average power level by the first amount if the fourth determining step determines that the second counter exceeds the fourth threshold.

12. The method of claim 1, wherein

the determining step includes,

first determining if the SNR exceeds a first threshold,

increasing a first counter if the first determining step determines the SNR exceeds the first threshold,

second determining if the SNR exceeds a second threshold, greater than the first threshold,

third determining if the first counter exceeds a third threshold if the first determining step determines the SNR exceeds the first threshold and the second determining step does not determine that the SNR exceeds the second threshold,

performing the second clipping step if the third determining step determines that the first counter exceeds the third threshold,

increasing a second counter if the second determining step determines the SNR exceeds the second threshold, and

fourth determining if the second counter exceeds a fourth threshold if the second determining step determines the SNR exceeds the second threshold; and

the increasing step increases the average power level of the communication signal by clipping the communication signal prior to amplification by a first amount if the third determining step determines that the first counter exceeds the third threshold and increases the average power level of the communication signal by clipping the communication signal prior to amplification by a second amount, greater than the first amount, if the fourth determining step determines that the second counter exceeds the fourth threshold.

13. The method of claim 1, wherein

the determining step determines if at least one of short term interference and long term interference with the transmitted signal exists based on the received parameter; and

the increasing step includes,

first clipping the communication signal by at least the first amount if the determining step determines that short term interference with the transmitted signal exists; and

second clipping the communication signal by at least the second amount if the determining step determines that long term interference with the transmitted signal exists.

14. The method of claim 13, wherein the increasing step further comprises:

gain controlling the communication signal based on an amount by which the communication signal is clipped.

15. The method of claim 14, wherein the received parameter is a signal-to-noise ratio (SNR).

16. An apparatus for controlling power of a transmitted signal, comprising:

a limiter clipping a received signal based on a first control signal;

a gain controller adjusting a gain of output from the limiter based on a second control signal; and

a controller receiving a communication signal including a parameter on a signal transmitted by the apparatus, determining a measure of interference with the transmitted signal based on the parameter, and generating the first and second control signals such that an average power level of the transmitted signal is increased based on the determined measure.

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